

Claims

1. Nitrogen oxide storage material comprising at least one nitrogen oxide storage component on a homogeneous magnesium-aluminium mixed oxide doped with rare earth oxides as support material, with the magnesium-aluminium mixed oxide containing from 1 to 30% by weight of magnesium oxide, based on the total weight of the magnesium-aluminium mixed oxide.
2. Nitrogen oxide storage material according to Claim 1, characterized in that the rare earth oxides comprise oxides of elements selected from the group consisting of cerium, praseodymium, neodymium, lanthanum, samarium and mixtures thereof.
3. Nitrogen oxide storage material according to Claim 2, characterized in that the rare earth oxides are cerium oxide and/or praseodymium oxide.
4. Nitrogen oxide storage material according to Claim 1, characterized in that the nitrogen oxide storage components comprise oxides, carbonates or hydroxides of elements selected from the group consisting of magnesium, calcium, strontium, barium, the alkali metals and mixtures thereof.
5. Nitrogen oxide storage material according to Claim 1, characterized in that the support material contains from 5 to 15% by weight of rare earth oxides, based on the total weight of the support material.
6. Nitrogen oxide storage catalyst containing platinum as oxidation-active component and a nitrogen oxide storage material, characterized in that the nitrogen oxide storage material is a material according to any of Claims 1 to 5 and a homogeneous magnesium-aluminium mixed oxide doped with rare earth oxides likewise serves as support material for platinum.
7. Nitrogen oxide storage catalyst according to Claim 6, characterized in that platinum has been deposited on the nitrogen oxide storage material and the catalyst additionally contains an oxygen-storing material based on cerium oxide.
8. Nitrogen oxide storage catalyst according to Claim 6 or 7, characterized in that it additionally contains palladium.

9. Nitrogen oxide storage catalyst according to Claim 6 or 7, characterized in that it additionally contains rhodium on aluminium oxide.
- 5 10. Nitrogen oxide storage catalyst according to Claim 8, characterized in that it additionally contains rhodium on aluminium oxide.
- 10 11. Nitrogen oxide storage catalyst according to Claim 6, characterized in that the homogenous magnesium-aluminium mixed oxide which is doped with rare earth oxides and serves as support material for platinum contains from 1 to 30% by weight of magnesium oxide, based on the total weight of the magnesium-aluminium mixed oxide and from 5 to 15% by weight of rare earth oxides, based on the total weight of the support material.
12. Nitrogen oxide storage catalyst according to Claim 6, characterized in that the catalyst contains from 3 to 25% by weight of nitrogen oxide storage components, calculated as oxide and based on the total weight of the catalyst material.
- 15 13. Nitrogen oxide storage catalyst according to Claim 12, characterized in that the catalyst contains from 5 to 10% by weight of nitrogen oxide storage components, calculated as oxide and based on the total weight of the catalyst material.
- 20 14. Nitrogen oxide storage catalyst according to either Claim 6 or 7, characterized in that it has been applied in the form of a coating to an inert honeycomb made of ceramic or metal.